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(71) Applicant: 000001959  
Shiseido Company, Ltd.  
5-5 Ginza 7-chome, Chuo-ku, Tokyo-to  
(72) Inventor: Nobuyoshi Koga  
c/o First Research Center, Shiseido Company, Ltd.  
1050 Nitsuba-cho, Kohoku-ku, Yokohama-shi, Kanagawa-ken  
(54) [Title of the Invention] A Cosmetic Material

(57) [Abstract]

[Problem] Its objective is to provide a cosmetic material with which a refreshing feeling is maintained over a long period.

[Means of Solution] A cosmetic material in which one or two or more substances selected from refrigerants, ethanol and isopropyl alcohol are compounded.

[Claims]

[Claim 1] A cosmetic material in which one or two or more substances selected from refrigerants, ethanol and isopropyl alcohol are compounded.

[Claim 2] A cosmetic material as described in Claim 1 in which at least one of the refrigerants<sup>1</sup> is a menthol derivative.

[Claim 3] A cosmetic material as described in Claim 1 or Claim 2 in which at least one of the refrigerants is any one of menthol, camphor, mint, eucalyptus oil, methyl lactate, menthoxypropanediol, menthyl hydroxybutyrate, menthoxyfuran and menthyl glucoside.

<sup>1</sup>Translator's Note: The term "refrigerant" is literally translated from the Japanese.

[Claim 4] A cosmetic material as described in Claim 1 or Claim 2 in which the menthol derivative is menthyl lactate, menthoxypropanediol, menthyl hydroxybutyrate, menthoxyfuran and methyl glucoside.

[Detailed Description of the Invention]

[0001]

[Technological field of the invention] This invention relates to a cosmetic material that exhibits excellent maintenance of a refreshing feeling.

[0002]

[Prior art] In general, refrigerants such as menthol, camphor, mint and eucalyptus oil are compounded in order to give cosmetic materials a refreshing feel. Although these refrigerants temporarily cool body temperature, with a refreshing feeling being obtained, body temperature is immediately restored, and, conversely, a burning sensation is felt. Thus, they lack effectiveness in sustaining the refreshing feeling. As indicated in Japanese Patent Application Early Disclosure No. 6-329528 [1994], cosmetic materials having a refreshing feeling and a superior capacity to sustain it by the combined use of refrigerants, the refreshing feeling of which is immediately felt, and of menthol derivatives whereby this effect is felt on a delayed basis and by clathrating them with cyclodextrin were discovered. However, no cosmetic materials of comparable superior properties were subsequently found.

[0003]

[Problems the invention is intended to solve] In the light of these circumstances, the inventors conducted intensive and repeated research for the purpose of finding cosmetic materials with which the refreshing feeling of the cosmetic materials would have excellent sustaining characteristics. As a result, they arrived at this invention by discovering that cosmetic materials have a refreshing feeling and an excellent capacity for that feeling to be sustained by compounding a refrigerant and then compounding ethanol and isopropyl alcohol with it.

[0004]

[Means for solving the problems] Specifically, this invention relates to a cosmetic material characterized in that a refrigerant and ethanol, and, further, isopropyl alcohol are compounded.

[0005] We shall now present a detailed description of this invention. The refrigerants that are used in this invention as described in Claim 1 are menthol, camphor, mint and eucalyptus oil, with which a refreshing feeling is rapidly obtained and menthyl lactate, menthoxypropanediol, menthyl propoxybutyrate, menthoxyfuran and menthyl glucoside, which are delayed action menthol derivatives. Of the quick acting refrigerants, the use of menthol was particularly desirable and the use of L-menthol is even more desirable. Of the delayed action refrigerants, the use of menthyl lactate is most desirable.

[0006] One or two or more refrigerants can be compounded with the cosmetic material of this invention. Although there are no particular limitations on the quantity of refrigerant compounded, 0.001 to 10.0 weight % is desirable, and, 0.01 to 5.0 weight % is particularly desirable.

[0007] The isopropyl alcohol that is used in this invention is a combustible liquid of a molecular weight of approximately 60.10 (chemical formula:  $\text{CH}_3\text{CH}(\text{OH})\text{CH}_3$ ). It is miscible with water, alcohol, ether and chloroform but is insoluble in salt solutions. The quantity of isopropyl alcohol compounded differs depending on the form of the product. Although there are no particular limitations on it, an amount greater than 0.05 weight % is desirable, and an amount of 0.1 to 10 weight % is particularly desirable in order to obtain a suitable sustained effect of the refreshing feeling.

[0008] The compounding of the ethanol that is used in this invention differs depending on the form of the product. Although there are no particular limitations on it, an amount of 0.1 weight % is

desirable, and an amount of greater than 0.1 weight % is particularly desirable in order to obtain a suitable sustained effect of the refreshing feeling.

[0009] As required, humectants, oils, drugs, fragrances and pigments can be added to the cosmetic material of this invention in ranges that do not impair its stability.

[0010] Next, we shall present a more detailed explanation of this invention by means of examples and comparative examples. This invention is not limited by them. Before presenting the examples, we shall provide a detailed description of the evaluation items and evaluation standards for the tests of effectiveness of this invention.

#### [0011] (1) Stability evaluation test

Each test material was stored for one month in a constant temperature tank and evaluations were made on the basis of the standards indicated below of changes in color tone, odor, external characteristics and use feel.

##### (Evaluation standards)

- ◎: There were no changes whatsoever in color tone, odor, external characteristics and use feel.
- O: There were almost no changes in color tone, odor, external characteristics and use feel.
- X: Changes were seen in color tone, odor, external characteristics and use feel.

#### [0012] (2) Evaluation of the refreshing feel

A specialist panel of 15 individuals was used for evaluation of the cosmetic product. One selected test material was applied to the left side of the face and each of the other test materials was applied to the right side of the face using cotton and the way of feeling (quick effect, delayed effect, sustained effect) of the refreshing feeling of the two materials was evaluated on the basis of the evaluation standards described below.

##### (Evaluation standards)

- ◎: 12 or more members of the 15-member specialist panel answered that there was a satisfactory refreshing feeling.
- O: 8 to 11 members of the 15-member specialist panel answered that there was a satisfactory refreshing feeling.
- Δ: 4 to 7 members of the 15-member specialist panel answered that there was a satisfactory refreshing feeling.
- X: 0 to 3 members of the 15-member specialist panel answered that there was a satisfactory refreshing feeling.

#### [0011] Examples 1 to 20 and Comparative Examples 1 to 20

The cosmetic materials of Examples 1 to 20 and Comparative Examples 1 to 20 were prepared by the formulation shown in Table 1 to Table 4 and the response evaluation tests described above were performed. The test materials that were applied to the left side of the face were designated as Comparative Examples 7, 11, 15 and 20 in the tables. Evaluation tests of stability were performed in Examples 1 to 20. Preparation of these cosmetic materials was performed by a method in which the alcohol phase and aqueous phase were dissolved and mixed, after which the mixtures were stirred and cooled. As should be evident from the results, test materials obtained by compounding a refrigerant, isopropyl alcohol and ethanol exhibited a superior capacity to sustain the refreshing feel and were of extremely good stability.

[0012]

[Table 1]

	Examples			Comparative Examples							(weight %)	
	1	2	3	1	2	3	4	5	6	7		
Ion exchange water	[all items: Residual quantity											
Dynamite glycerol	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
L-Menthol	0.2	0.2	-	0.2	0.2	0.2	0.2	-	-	-	0.2	
Menthyl lactate	0.1	-	0.1	0.1	0.1	-	-	0.1	0.1	0.1	0.1	
Ethanol	50.0	50.0	50.0	-	50.0	-	50.0	-	50.0	50.0	50.0	
Isopropyl alcohol	1.0	1.0	1.0	1.0	-	1.0	-	1.0	-	-	-	0.5
Cyclodextrin	-	-	-	-	-	-	-	-	-	-	-	0.5
Refresh. feeling, quick	◎	◎	Δ	Δ	○	X	○	X	X	X	O	
delayed	◎	Δ	○	Δ	○	X	X	Δ	O	○	◎	
sustained	O	O	O	Δ	X	X	X	Δ	X	○	◎	
Stability	◎	◎	◎									

[0013]

[Table 2]

	Examples						Comparative Examples				(weight %)	
	4	5	6	7	8	9	8	9	10	11		
Ion exchange water	[all items: Residual quantity											
Dynamite glycerol	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
L-Menthol	0.2	0.5	-	0.001	1.0	5.0	0.0005	0.5	0.5	0.5	0.5	0.5
Menthyl lactate	0.2	-	0.2	0.001	0.8	5.0	0.0003	0.2	0.2	0.2	0.2	0.2
Ethanol	55.0	55.0	55.0	55.0	55.0	55.0	55.0	-	55.0	55.0	55.0	
Isopropyl alcohol	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	-	-	-	3.0
Cyclodextrin	-	-	-	-	-	-	-	-	-	-	-	
Refresh. feeling, quick	◎	◎	Δ	○	◎	◎	Δ	Δ	○	○	○	
delayed	◎	Δ	○	○	◎	◎	X	Δ	Δ	○	◎	
sustained	O	O	O	O	O	O	X	Δ	X	○	◎	
Stability	◎	◎	◎	◎	◎	◎						

[Table 3]

(weight %)

	Examples					Comparative Examples				
	10	11	12	13	14	15	12	13	14	15
Ion exchange water	[all items: Residual quantity									
Dynamite glycerol	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
L-Menthol	0.3	0.3	--	0.3	1.3	0.3	0.3	0.3	0.3	0.3
Methyl lactate	0.1	--	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Ethanol	57.0	57.0	57.0	10.0	2.0	0.5	0.01	57.0	--	57.0
Isopropyl alcohol	3.0	3.0	3.0	3.0	3.0	3.0	--	3.0	--	--
Cyclodextrin	--	--	--	--	--	--	--	--	--	2.0
Refresh. feeling, quick	◎	◎	O	◎	◎	Δ	Δ	O	Δ	O
delayed	◎	Δ	O	◎	O	O	Δ	Δ	Δ	◎
sustained	O	O	O	O	O	O	Δ	X	Δ	◎
Stability	◎	◎	◎	◎	◎	◎				

[0015]

[Table 4]

(weight %)

	Examples					Comparative Examples				
	16	17	18	19	20	16	17	18	19	20
Ion exchange water	[all items: Residual quantity									
Dynamite glycerol	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
L-Menthol	0.3	0.3	--	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Methyl lactate	0.1	--	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Ethanol	50.0	50.0	50.0	50.0	50.0	50.0	--	--	50.0	50.0
Isopropyl alcohol	10.0	10.0	10.0	0.5	0.05	0.02	--	10.0	--	--
Cyclodextrin	--	--	--	--	--	--	--	--	--	3.0
Refresh. feeling, quick	◎	◎	Δ	◎	◎	O	Δ	Δ	O	O
delayed	◎	Δ	O	O	O	Δ	X	Δ	Δ	◎
sustained	O	O	O	O	O	X	X	Δ	X	◎
Stability	◎	◎	◎	◎	◎					

## [0016]

## Example 21 Cool toilet water

Amount compounded  
(weight %)

A.	Ion exchange water	to 100
	Glycerol	2.0
	Glycyrhizic acid ammonium [salt]	0.05
	Aloe extraction solution	1.0
	2-Hydroxy-4-methoxysulfonic acid Na	0.1
B.	Ethanol	15.0
	Isopropyl alcohol	1.0
	POE (60 mol) hardened castor oil	0.5
	Menthol	0.2
	Methyl lactate	0.2
	Vitamin E acetate	0.01
	Butylparaben	0.1
	Fragrance	0.01

(Method of manufacture) Part A, which was dissolved in ion exchange water, and part B, which was dissolved in ethanol, were mixed and a cool cosmetic material was obtained. The cool toilet water of this invention exhibited a high sustaining effect for the refreshing feeling and was stable.

## [0017]

## Example 22 Cool essence

Amount compounded  
(weight %)

A.	Ion exchange water	to 100
	1,3--Butylene glycol	10.0
	Carboxyvinyl polymer	0.2
	L-Arginine	0.2
B.	Ethanol	30.0
	Isopropyl alcohol	1.0
	Menthol	1.0
	Camphor	1.0
	Eucalyptus oil	1.0
	Menthoxyp propane diol	1.0
	Macademia nut oil	1.0
	POE Cholesteryl dihydroxyisostearate	1.0

(Method of manufacture) Part A, which was dissolved in ion exchange water, and part B, which was dissolved in ethanol, were mixed and a cool cosmetic material was obtained. The cool essence of this invention exhibited a high sustaining effect for the refreshing feeling and was stable.

## [0018]

## Example 23 Cool sunscreen

## Amount compounded

A.	Ion exchange water	to 100
	Dipropylene glycol	5.0
	Menthol	0.3
	Methyl hydroxybutyrate	0.3
	Ethanol	2.0
	Isopropyl alcohol	1.0
	Potassium hydroxide	0.7
B.	Stearic acid	4.0
	Stearyl alcohol	2.0
	Monostearic acid glyceride	3.0
	Methyl cyclosiloxane	5.0
	Squalane	5.0
	Octyl methoxycinnamate	7.5
	2-Hydroxy-4-methoxybenzophenone	2.0

(Method of manufacture) The aqueous phase Part A and the oleaginous phase Part B were mixed uniformly and emulsified and cool sunscreen was obtained. The cool sunscreen of this invention exhibited a high sustaining effect for the refreshing feeling and was stable.

## [0019]

## Example 24 Cool cologne

## Amount compounded

A.	Ion exchange water	5.0
	Hydroxypropyl mix-CD	5.0
	Glycyrrhizic acid monoammonium [salt]	0.1
	Carboxylvinyl polymer	0.1
	L-arginine	0.1
B.	Ethanol	to 100
	Isopropyl alcohol	1.0
	Fragrance	3.0
	Menthol	0.1
	Methyl lactate	0.1
	Eucalyptus oil	0.1
	Octyl methoxycinnamate	3.0

(Method of manufacture) Part A was dissolved uniformly, after which part B, which was dissolved uniformly, was added to and mixed with it and a cool cologne was obtained. The cool cologne of this invention exhibited a high sustaining effect for the refreshing feeling and was stable.

## [0020]

## Example 25 A cool powder lotion

## Amount compounded

A.	Ion exchange water	to 100
	1,3-Butylene glycol	1.0
	Menthol	0.2
	Methyl hydroxybutyrate	0.2
	Mint	0.1
	Ethanol	20.0

B.	Zinc white	1.0
	Kaolin	1.0
	Fine grain titanium oxide	1.0
	Red iron oxide	0.1

(Method of manufacture) Part A was uniformly dissolved and a clathrate of the refrigerant was made, after which powdered part B, which was mixed uniformly, was added and uniformly mixed, with a cool powder lotion being obtained. The cool powder lotion of this invention exhibited a high sustaining effect for the refreshing feeling and was stable.

## [0021]

## Example 26 Cool toilet water

Amount compounded  
(weight %)

A.	Ion exchange water	to 100
	Glycerol	1.9
	Hydroxypropyl-β-CD	1.1
	Glycyrrhizic acid ammonium [salt]	0.05
	Aloe extract solution	1.0
	2-Hydroxy-4-methoxysulfonic acid Na	0.1
B.	Ethanol	14.5
	Isopropyl alcohol	1.0
	POE (60 mol) hardened castor oil	1.0
	Camphor	5.0
	Menthoxypropanediol	0.01
	Menthyl lactate	0.01
	Vitamin E acetate	0.01
	Butylparaben	0.1
	Fragrance	0.01

(Method of manufacture) Part A, which was dissolved in ion exchange water, and part B, which was dissolved in ethanol, were mixed and a cool cosmetic material was obtained. The cool toilet water of this invention exhibited a high sustaining effect for the refreshing feeling and was stable.

## [0022]

## Example 27 Cool essence

Amount compounded  
(weight %)

A.	Ion exchange water	to 100
	1,3-Butylene glycol	12.5
	Carboxyvinyl polymer	0.3
	L-arginine	0.15
B.	Ethanol	28.0
	Isopropyl alcohol	1.0
	Menthol	0.01
	Mint	0.01
	Eucalyptus oil	0.01
	Menthoxypropanediol	5.0
	Macademia nut oil	1.0
	POE cholesteryl dihydroxyisostearate	1.0

(Method of manufacture) Part A, which was dissolved in ion exchange water, and part B, which was dissolved in ethanol, were mixed and a cool essence was obtained. The cool essence of this invention exhibited a high sustaining effect for the refreshing feeling and was stable.

## [0023]

## Example 28 Cool sunscreen

	Amount compounded (weight %)
A.	to 100
Ion exchange water	5.0
Dipropylene glycol	10.0
Eucalyptus oil	10.0
Menthyl glycoside	2.0
Ethanol	1.0
Isopropyl alcohol	0.7
Potassium hydroxide	
B.	4.0
Stearic acid	2.0
Stearyl alcohol	3.0
Monostearic acid glyceride	5.0
Methyl cyclosiloxane	5.0
Squalane	7.5
Octyl methoxycinnamate	2.0
2-Hydroxy-4-methoxybenzophenone	

(Method of manufacture) The aqueous phase part A and the oleaginous phase part B were mixed uniformly and emulsified and a cool sunscreen was obtained. The cool sunscreen of this invention exhibited a high sustaining effect for the refreshing feeling and was stable.

## [0024]

## Example 29 Cool cologne

	Amount compounded (weight %)
A.	to 100
Ion exchange water	0.15
Glycyrrhizic acid monoammonium [salt]	0.15
Carboxylvinyl polymer	0.1
L-arginine	
B.	81.2
Ethanol	1.0
Isopropyl alcohol	3.0
Fragrance	0.001
Menthol	0.001
Camphor	0.1
Menthyl lactate	0.001
Eucalyptus oil	3.0
Octyl methoxycinnamate	

(Method of manufacture) Part A was dissolved uniformly, after which part B, which was dissolved uniformly, was added to and mixed with it and a cool cologne was obtained. The cool cologne of this invention exhibited a high sustaining effect for the refreshing feeling and was stable.

[0025]

## Example 30 Cool powder lotion

	Amount compounded (weight %)
A.	to 100
Ion exchange water	1.0
1,3-Butylene glycol	1.0
Carboxymethyl- $\alpha$ -cyclodextrin	0.2
Mint	0.1
Eucalyptus oil	0.2
Menthyl hydroxybutyrate	20.0
Ethanol	1.0
Isopropyl alcohol	1.0
B.	1.0
Zinc white	1.0
Kaolin	1.0
Fine grain titanium oxid	0.1
Red iron oxide	0.1

(Method of manufacture) Part A was dissolved uniformly and a clathrate of refrigerant was made, after which powdered part B, which was mixed uniformly, was added and mixed uniformly, with a cool powder lotion was obtained. The cool powder lotion of this invention exhibited a high sustaining effect for the refreshing feeling and was stable.

[0026]

[Effect of the invention] As described above, the cosmetic material of this invention is a cosmetic material that exhibits a long sustained refreshing feeling as a result of compounding a refrigerant with ethanol and isopropyl alcohol.